WCA Shiloh Landfill, LLC 40 Estes Plant Road Piedmont, SC 29673



Phone: 864-845-8355 Toll Free: 877-610-2700

Doc ID#

5047

Date

Fax: 864-845-8354

June 26, 2008

North Carolina Department of Environmental and Natural Resources Division of Waste Management Solid Waste Section 512 North Salisbury Street Raleigh, North Carolina 27604 Scanned by

WCA of High Point, LLC RE:

**Permit 41-16** 

Surety Bond for Closure and Post Closure

Please find attached a Surety Bond for the above captioned facility located in Guilford County, North Carolina in the amount of \$1,516,683.00 in favor of the North Carolina Department of Environmental and Natural Resources. This bond is for the closure and post closure of this facility.

The closure estimate is based on 12.5 acres of open Construction and Demolition Debris Landfill area, and a 30 year post-closure period. The estimate is based on third-party costs to perform the necessary work. A worksheet is attached showing the cost basis of this estimate. A copy of the closure and post-closure plan for the landfill is also attached.

If you have any question, please call me at 954 415-7230.

Sincerely,

Nick Marotta

Regional Engineer

attachments





# WCA of High Point, LLC

# Closure Post Closure for Bond Based on largest open area

# Closure

Largest Open Area in Acres	12.5	Quantity	Unit Price	Cost	
Mob/Demob	LS	1.0	\$25,000	\$25,000	
Topsoil 2 ft	ĊY	40333.3	\$3.25	\$131,083	
Clay Cap 1.5 ft	CY	0.0	\$7.00	\$0	
40 mil HDPE	SF.	544500.0	\$0.35	\$190,575	
Geocomposite single sided	SF	544500.0	\$0.45	\$245,025	
Seed & Mulch	AC	12.5	\$1,300	\$16,250	
CQA	AC	12.5	\$2,500	\$31,250	
CQA	7.0		•,	\$639,183	2008 Closure Estimate for
No gas work since site is not N	4SPS		•		Bond
Post Closure					
Site Inspections					
Annual Facility Inspection	LS	1.0	\$1,500	\$1,500	
Annual Report	LS	1.0	\$1,200	\$1,200	
Monthly Inspections	· EA	12.0	\$200	\$2,400	
Subto	tal			\$5,100	
Land Surface Care					e
Mowing	AC	22.0	\$75	\$1,650	once per year entire property
Erosion Damage Repair	AC	5.0	\$600	\$3,000	
Subto	tai			\$4,650	
Maintenance .					. No. a company
Sed Basin Cleaning	LS	0.5	\$6,000		every other year
Subto	otal			\$3,000	a
Environmental Monitoring					
GW & Surface Water Monitor	ing LS	2.0	\$7,500.00		
Methane Probe Monitor	LS	1.0	\$1,500	\$1,500	
	LS				
Subto	otal			\$16,500	
		total for one year		\$29,250	
		30 year total		\$877,500	Post Closure 30 yrs
				\$1,516,683	Total Closure Post Closure

Facility Name: WCA of High Point, LLC Facility Identification Number: 41-16

#### INCREASE RIDER TO SURETY BOND

PURPOSE: **INCREASE** 

To be attached to Bond Number 300520 issued by Ohio Indemnity Company, as Surety in the amount of Four Hundred Twenty Nine Thousand Three Hundred Ninety Eight and 00/100 Dollars (\$429,398.00), on behalf of WCA of High Point, LLC, in favor of the North Carolina Department of Environment and Natural Resources Division of Waste Management.

In consideration of the premium charged for the attached bond, it is mutually understood and agreed by the Principal and the Surety that the bond shall be modified to read as follows: The above said bond amount shall be One Million Five Hundred Sixteen Thousand Six Hundred Eighty Three and 00/100 Dollars (\$1,516,683.00), effective the 16th day of June 2008.

All other items, limitations and conditions of said bond except as herein expressly modified shall remain unchanged.

Signed, sealed and dated this 18th day of June 2008.

Principal: Material Recovery, LLC

Surety:

Ohio Indemnity Company

# OHIO INDEMNITY COMPANY Columbus, Ohio 43215

PRINCIPAL Material Recovery, LLC	EFFECTIVE DATE June 16, 2008
CONTRACT AMOUNT	AMOUNT OF BOND \$ 1,516,683.00
DOCUMENT NO. A1487	POWER NO. 300520
existing under the laws of the State of Ohio with its princi 43215, by and through the undersigned, its President, do Patricia A. Temple, Nicole Skedel, Kathy Goe, Julie Bo Attorneys-in-Fact to make, execute, attest, seal, acknow and deed, where required, any and all bonds, undertaking	that Ohio Indemnity Company, a corporation organized and ipal office at 250 East Broad Street, 10 <sup>th</sup> Floor, Columbus Ohio pes hereby nominate, constitute and appoint Kathleen P. Price, owers, Maria Jackson and Daniel J. Clark as its true and lawful ledge and deliver for and on its behalf, as Surety, and as its act gs, recognizances and written obligations in the nature thereof, any under this Power of Attorney shall not exceed Four Million
IN WITNESS WHEREOF, Ohio Indemnity Co	empany has caused its corporate seal to be affixed hereunto, and it this $16^{th}$ day of January, $2007$ .
(Corporate Seal)	OHIO INDEMNITY COMPANY
V v	By: John S. Sokol, President
State of Ohio County of <u>Franklin</u>	
personally appeared John S. Sokol, to me personally kneed the preceding instrument and acknowledged that and said that he is the President of Ohio Indemnity Comporate seal of said corporation, and the said corporation to the said instrument by the authority and continued to the said instrument by the authority and co	
OFFICIAL SEAL SHERRY E. BIXLER NOTARY PUBLIC, STATE OF OHIO RECORDED IN PICKAWAY COUNTY MY COMMISSION EXPIRES 01-06-10	Notary Public  Commission expires: 16/10
I, the undersigned, Secretary of Ohio Indemni certify that the foregoing Power of Attorney remains in Signed and sealed this 18th day of June	
	Matthew C. Nolan, Secretary

Any reproduction or facsimile of this form is void and invalid.



# OHIO INDEMNITY COMPANY

#### **OHIO INDEMNITY COMPANY**

Certificate 2007

The following financial information was excerpted from the Statutory Annual Statement filed by the Ohio Indemnity Company with the Ohio Department of Insurance March 1, 2008:

#### STATEMENT OF INCOME

Direct Written Premium Reinsurance Assumed Reinsurance Ceded Net Written Premium Change in Unearned Net Earned Premium Losses and LAE Incurred Other Underwriting Expenses Underwriting Gain Net Investment Gain Other Income Income Before Federal Income Tax Federal Income Tax Net Income	72,496,435 4,615,150 (31,329,370) 45,782,215 1,191,043 46,973,258 25,815,599 15,946,768 5,210,891 2,968,005 457,648 8,636,544 1,967,145 6,669,399
BALANCE SHEET	
Assels	400.050.444
Cash and Invested Assets	100,059,414
Accrued Investment Income	1,098,214 7,021,510
Uncollected Premium and Agents' Balances	1,032,033
Reinsurance Recoverable	1,156,367
Net Deferred Tax Asset	397,040
Other Assets ,	
Total Assets	110,764,578
Liabilites and Surplus	
Loss and LAE Reserves	13,958,457
Reinsurance Payable	688,696
Commission Payable	2,188,849 26,369,732
Uneamed Premium	20,309,732
Other Llabilities	22,790,000
Totał Liabilitles	65,699,539
Surplus	45,065,039
Total Liabilities and Surplus	110,764,578

I hereby certify that the above information is that contained in the Statutory Annual Statement filed by Ohio Indemnity Company with the Ohio Department of Insurance for the year ending December 31, 2007.

Matthew C. Nolan, CFO

250 East Broad Street
Tenth Floor
Columbus, OH 43215-3708
(614) 228-2800 • (800) 628-8581
www.ohioindemnity.com

# **CLOSURE/POST CLOSURE CARE PLAN**

# WCA OF HIGH POINT CONSTRUCTION AND DEMOLITION LANDFILL PHASE 2 EXPANSION PERMIT NO. 41-16 GUILFORD COUNTY, NORTH CAROLINA

Prepared for:



WCA of High Point , LLC 5830 Riverdale Drive Jamestown, North Carolina 27282

Prepared by:



Golder Associates NC Inc. 4900 Koger Boulevard, Suite 140 Greensboro, North Carolina 27407

Project No.: 063-6526

Phase 2 Expansion

# CLOSURE/POST CLOSURE PLAN WCA OF HIGH POINT C&D LANDFILL CONSTRUCTION AND DEMOLITION LANDFILL

# TABLE OF CONTENTS

Table of Contents	i
<u>PAG</u>	E
1.0 INTRODUCTION 1	
2.0 CAP DESIGN 1	
3.0 CAP STABILITY	
3.1 Stability	
3.2 Settlement	
2.2 Franze Thorn	
3.4 Inspection	
4.0 WASTE VOLUME	
50 CLOSURE3	
5.1 Closure Schedule	
5.2 Certification	
5.3 Recordation4	
5.4 Closure Cost Estimate	
6.0 POST-CLOSURE ACTIVITIES	
6.1 Contact	
6.2 Post-Closure Maintenance 4	
6.3 Inspection Plan	
6.4 Cap System Integrity	
6.5       Monitoring Plan       5         6.5.1       Groundwater Monitoring Plan       5         6.5.2       Surface Water Monitoring Plan       5         6.5.3       Gas Monitoring Plan       5	
6.6 Post Closure Land Use	
6.7 Post Closure Care Costs	
6.8 Completion of Post Closure Care	

## APPENDICES

APPENDIX CP-1	Waste Inventory Estimates
APPENDIX CP-2	Closure Cost Estimate
APPENDIX CP-3	Post-Closure Inspection Forms
APPENDIX CP-4	Post Closure Care Cost Estimate

#### 1.0 INTRODUCTION

Pursuant to the North Carolina Solid Waste Management Rules (15A NCAC 13B), this Closure and Post-Closure Plan is submitted as part of the permit amendment application to construct Phase 2 of the WCA of High Point C&D Landfill in Guilford County, North Carolina.

The permitted WCA of High Point C&D Landfill encompasses approximately 154 acres, 49.2 of which are approved for unlined capacity by the Solid Waste Section of North Carolina (Division). The approved lined capacity acreage has been subdivided into seven (7) five-year Phases. The facility is currently operating in Phase 1. Construction of Phase 1 was completed in phases; construction of the last cell of Phase 1 was completed on April 2006.

The facility will be closed in accordance with the requirements of Rule .0543 of the North Carolina Solid Waste Management Rules (15A NCAC 13 B). The facility may be capped in one construction event or in phases as described below.

#### 2.0 CAP DESIGN

The proposed closure cap has been designed to minimize infiltration and erosion. Components of the proposed closure cap are discussed as follows. Cross sectional details of the proposed cap and the alternate cap are provided on Drawing No. EP-7.

<u>Intermediate Cover</u>: On-site soils will be used to provide a minimum 12 inches of intermediate cover over landfilled materials and a base for cap construction.

<u>Passive Gas Vents</u> – Passive gas vents will be installed at a frequency of one per two acres of cap. A typical passive gas vent is detailed on Drawing No. EP-7. Passive venting of landfill gas will protect the integrity of the cap by preventing excessive pressure buildup beneath the cap.

Gas Migration Layer - A geonet composite will be installed between the intermediate cover and the overlying infiltration layer. The geonet composite will provide a pathway for accumulated gas to move laterally and then upward through the vents at the landfill surface.

Infiltration Barrier: The infiltration layer is proposed to consist of either (1) 18 inches of compacted soil with a permeability no greater than  $1\times10^{-5}$  cm/sec, or (2) a 40-mil FML cap (alternate cap). This layer will be constructed over the geonet composite that will serve as the gas migration layer. In the case of soil, the permeability requirement will be achieved using laboratory test data for borrow soil material, and construction specifications developed prior to construction. Installation and testing requirements for the infiltration barrier are provided in the Specifications and the CQA Plan.

<u>Drainage Layer</u>: A geomembrane cap is proposed as an alternate to a soil cap. If the geomembrane alternate is used, a geosynthetic drainage layer consisting of a geonet and geotextile composite will be placed over the geomembrane to promote drainage.

<u>Erosion Layer</u>: The erosion layer will consist of a minimum eighteen (18) inches of moderately compacted soil. The final six inches of material will consist of topsoil or organically amended soil capable of sustaining native plant growth.

<u>Vegetation</u> - After placement of the erosion layer, the area will be seeded. Seeding will be accomplished in accordance with the "North Carolina Erosion and Sediment Control Planning and Design Manual", and recommendations from the Cooperative Extension Office. Mulch and erosion matting will be used as needed to control erosion and promote vegetative growth. The vegetative cover will be inspected regularly. Areas found to be sparsely covered will be revegetated.

#### 3.0 CAP STABILITY

Stability of the final cover system will be affected by material selection, settlement, and freeze thaw and is discussed below:

#### 3.1 Stability

Stability of the proposed cap and alternate cap was evaluated as discussed in the Engineering Plan. The proposed design was found to be stable at slopes as steep as 3 Horizontal to 1 Vertical (3H:1V).

#### 3.2 Settlement

Non-uniform settlement can be expected over the entire waste footprint. The primary mechanism of settlement is waste consolidation due to decomposition of the landfilled material. According to Daniel, et al, long-term settlement is typically 5 to 15 percent over 20 to 30 years; however, the majority of this settlement (approximately 5%) is expected to occur in the first few months following waste placement. Post settlement slopes have been designed to be a minimum of five percent.

#### 3.3 Freeze Thaw

Based on a published map of frost depths throughout the United States (EPA, November 1993: A530-R-93-017), the anticipated maximum depth of freeze/thaw effects on the site is less than or equal to 18 inches. Since the thickness of erosion layer is a minimum of 18 inches, freeze/thaw is not expected to affect the performance of the proposed cap or alternate cap.

#### 3.4 Inspection

Quarterly inspections of the final cover will be conducted to look for areas of the cap that might be damaged. Should these inspections indicate problem areas, (ponding, erosion rills, cap displacement, etc.), repairs will be initiated as soon as practical.

#### 4.0 WASTE VOLUME

The total footprint of Phase 1 is 12.1 acres. The total airspace of Phase 1 has been estimated as 797,243 cubic yards. An estimate of the total airspace in Phase 2 is 907,155 cubic yards. After allowing for daily/intermediate cover, cap and soil protective cover, an estimated total of 1,466,551 cubic yards of waste will have been disposed of at the facility. Supporting calculations are included in Appendix CP-1. The calculation is based on the volume between proposed top of base grades and final grades, and assumptions regarding the density of waste and cover soil in the fill.

- 3 -

#### 5.0 CLOSURE

#### 5.1 Closure Schedule

Prior to beginning closure of any portion of the facility, WCA of High Point will notify the Division that a notice of intent to close the facility or portion of the facility has been placed in the operating record.

WCA of High Point shall begin closure activities of each C&D landfill (LF) unit as required by Rule .0543(c)(5) no later than 30 days after the date on which the C&DLF unit receives the known final receipt of wastes, no later than 30 days after the date that a 10 acre or greater area of waste is within 15 feet of design grades, or no later than one year after the most recent receipt of wastes, if the C&DLF unit has remaining capacity. Extensions beyond the deadline for beginning closure may be granted by the Division if the owner or operator demonstrates that the portion of the C&DLF unit has the capacity to receive additional wastes and the owner and operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed C&DLF unit.

WCA of High Point shall complete closure activities of each C&DLF unit in accordance with this Plan within 180 days following the beginning of closure as specified above. Extensions of the closure period may be granted by the Division if the owner or operator demonstrates that closure will, if necessary, take longer than 180 days and that they will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed C&DLF unit.

An itemized list of closure activities and a proposed schedule follow.

Activity	Proposed Timeframe (in days following last receipt of waste)
Grade Intermediate Cover	0 - 30
Survey	15 - 45
Place'Cap	45 - 135
Place Erosion Layer	75 - 150
Seeding (Permanent)*	100 - 180
Prepare and Submit Closure Certification	150-210

<sup>\*</sup>Depending on the time of year, permanent seeding may need to be delayed up to three months. In that event, temporary seeding shall be placed within the specified time frame.

#### 5.2 Certification

Following closure of each unit or portions of units, the owner and operator shall notify the Division that a certification, signed by the project engineer verifying that closure has been completed in accordance with the closure plan, has been placed in the operating record. This Certification will state that the site was closed in accordance with the Closure Plan and applicable solid waste regulations and laws as required by Rule .0543(c)(7).

#### 5.3 Recordation

Following closure of all C&DLF units, the owner and operator shall record a notation on the landfill facility property deed, or some other instrument that is normally examined during a title search, and notify the Division that the notation has been recorded and a copy has been placed in the operating record. The notation on the deed shall in perpetuity notify any potential purchaser of the property that the land has been used as a C&DLF unit or facility and its use is restricted under the Closure Plan as required by Rule .0543(c)(8).

#### 5.4 Closure Cost Estimate

An estimate of closure costs is provided in Appendix CP-2. All costs are given in 2006 dollars.

# 6.0 POST-CLOSURE ACTIVITIES

Post-closure activities will be conducted at the landfill in accordance with Rule .0543 for a period of 30 years following closure of the landfill. The Division may decrease the length of the post-closure period if the owner or operator demonstrates that the reduced period is sufficient to protect human health and the environment, and the Division approves this demonstration. The period might be increased by the Division if the Division determines that the lengthened period is necessary to protect human health and the environment.

#### 6.1 Contact

The person responsible for the facility during the post-closure care period is:

Site Manager 5830 Riverdale Drive; Jamestown, North Carolina 27282 336.886.3560

## 6.2 Post-Closure Maintenance

Post-closure maintenance and monitoring will be conducted at the WCA of High Point C&D Landfill for a period of 30 years after final closure. Monitoring will include semi-annual sampling of groundwater and surface water, quarterly gas monitoring and quarterly inspection of the final cover and monitoring and control systems. Maintenance needs identified through the monitoring program will be initiated no later than 60 days after the discovery, and within 24 hours if a danger or eminent threat to human health or the environment is indicated.

# 6.3 Inspection Plan

Routine inspections will be conducted throughout the post-closure care period. These inspections will be carried out quarterly unless problems are detected that indicate that more frequent visits are warranted. Potential impacts to the public and environment will be considered in determining the inspection frequency. Items to be included in the monthly inspection will be as follows:

- Access and security control;
- · Cap System;

- Stormwater management;
- Erosion and sediment control;
- Gas management;
- Groundwater and landfill gas monitoring systems;
- Integrity of site benchmarks; and
- Vector control.

Sample inspection forms that can be used during each inspection are included as Appendix CP-3. Completed copies of the inspection forms will be kept by the owner, and copies will be forwarded to the Division for its records.

#### 6.4 Cap System Integrity

WCA of High Point shall maintain the integrity and effectiveness of any and all cap systems including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the cap system.

#### 6.5 Monitoring Plan

Rule .0544 requires preparation of a Monitoring Plan which addresses groundwater monitoring, surface water monitoring, landfill gas monitoring, and waste acceptability program. The Monitoring Plan has been broken into several separate plans which are discussed as follows.

#### 6.5.1 Groundwater Monitoring Plan

A Groundwater Monitoring Plan, including information on the proposed ground-water monitoring system(s), sampling and analysis requirements, and detection monitoring requirements that fulfills the requirements of Part (1)(A) through (1)(E) of Rule .0544(b) has been prepared. This plan is included as the WCA of High Point C&D Landfill Water Quality Monitoring Plan, Appendix DH-E of the Design Hydrogeologic Report, prepared for the Phase 2 Expansion. Groundwater monitoring shall continue throughout the Post-closure period in accordance with the approved Plan.

#### 6.5.2 Surface Water Monitoring Plan

A Surface Water Monitoring Plan has been designed to detect the effects of the facility on surface water in the area in general accordance with Rule .0544(c). This plan is included as the WCA of High Point C&D Landfill Water Quality Monitoring Plan, Appendix DH-E of the Design Hydrogeologic Report, prepared for the Phase 2 Expansion. Surface Water monitoring shall continue throughout the Post-closure period in accordance with the approved Plan.

#### 6.5.3 Gas Monitoring Plan

A Gas Control Plan is included as Section 7.3 of the facility *Operations Plan*. Landfill Gas monitoring shall continue throughout the Post-closure period in accordance with the approved Plan.

## 6.6 Post Closure Land Use

The primary land use for the site after closure of the landfill will be open dormant green space. Limited passive recreational uses may be proposed at a later time. Post-closure use of the property shall not disturb the integrity of the cap system, base liner system, or any other components of the containment system, or the function of the monitoring systems unless necessary to comply with the requirements in the Solid Waste Management Rules. The Division may approve disturbance if the owner or operator demonstrated that disturbance of the cap system, base liner system, or other component of the containment system, including removal of waste, will not increase the potential threat to human health or the environment.

#### 6.7 Post Closure Care Costs

An estimate of post-closure care costs is provided in Appendix CP-4. All costs are given in 2006 dollars.

## 6.8 Completion of Post Closure Care

Following completion of the post-closure care period for the facility, WCA of High Point shall notify the Division that a certification, signed by a registered professional engineer licensed in the state of North Carolina, verifying that post-closure care has been completed in accordance with the post-closure plan, has been placed in the operating record.

(end)